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ACCESSION NR: AP5015279

SUBMITTED: 31Jan64

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OTHER: 000

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ATD PRESS: 4018

Card 2/2 Jrs

KHVALINA, N.Ya. (Saratov)

Ambrosia psilostachya DC. in Saratov Province. Bot. zhur. 50 no.4:532-  
534 Ap '65. (MIRA 18:5)

*KHVAL'KOVSKIY, A.V.*  
ANDRIANOV, Kuz'ma Andrianovich; EPSHTEIN, Lev Abramovich; KHVAL'KOVSKIY,  
A.V., redaktor; VORONIN, K.G., tekhnicheskiy redaktor

[Electric insulation materials with a mica foundation]  
Elektroizoliatsionnye materialy na osnove sliudinita. Moskva,  
Gos. energ. izd-vo, 1957. 92 p. (MLRA 10:5)  
(Electric insulators and insulation) (Mica)

KHVAL'KOVSKIY, A. V. (Cand. Tech. Sci.)

"High-voltage Insulation of Electrical Machines with Glass/Mica  
Insulation Using Thermosetting Epoxy-silicone Binders,"

report presented at a Conference on New Electrical Insulating Materials and  
Technological Processes, Leningrad, Dec 1957

KHVAL'KOVSKIY, A.V., red.; OZERSKIY, V.A., red.; VORONIN, K.P., tekhn.red.

[Electric insulating materials made from epoxy resins] Elektro-  
izoliatsionnye materialy na osnove epoksidnykh smol. Moskva,  
Gos.energ.izd-vo, 1959. 127 p. (MIRA 12:10)  
(Electric insulators and insulation) (Resins, Synthetic)

8(2)

AUTHOR:

Khval'kovskiy, A. V., Candidate of Technical Sciences

SOV/105-59-7-25/30

TITLE:

New Electric Insulation Materials in Electromotor Construction  
(Novyye elektroizolyatsionnyye materialy v elektromashino-  
stroyenii)

PERIODICAL:

Elektrichestvo, 1959, Nr 7, pp 85 - 88 (USSR)

ABSTRACT:

This is an abstract on the basis of foreign data. No references are given. A survey is given of the characteristics and the range of application of the most promising insulation materials developed in foreign countries and destined for the insulation of electric motors. There are 2 tables.

ASSOCIATION:

Vsesoyuznyy elektrotekhnicheskii institut im. Lenina (All-  
Union Electrotechnical Institute imeni Lenin)

Card 1/1

24.2310

82850  
S/105/60/000/009/002/003  
B019/B054

AUTHORS: Andrianov, K. A., Corresponding Member of the AS USSR,  
Volkov, V. A., Engineer, Khval'kovskiy, A. V., Candidate  
of Technical Sciences

TITLE: The Character of the Electric Strength of Insulations Made  
of Micaceous Materials <sup>15</sup>

PERIODICAL: Elektrichestvo, 1960, No. 9, pp. 73-80

TEXT: The authors report on experiments to investigate the character of the electric strength of mica paper and the electric field within the paper. The experiments were made on 100% mica paper 0.045 - 0.050 mm thick, manufactured by the "Izolit" Works. The very extensive report states that the mica lamellas in the paper have equal shape and dimensions, and thus the paper represents a typical nonhomogeneous dielectric. Nonimpregnated mica paper has to be considered as a multilayered condenser; its electric strength is determined by the strength of the internal air cavities. Therefore, the high electric strength of nonimpregnated mica paper is explained by the effect of the thin air layers. The spark-over of nonimpregnated

Card 1/2

The Character of the Electric Strength of Insulations Made of Micaceous Materials

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B019/B054

mica paper has a successive character, it starts from the electrically weakest air cavity, and extends successively over the whole paper thickness. The electric strength of impregnated mica paper depends on the agreement of the continuous anisotropy of the structure and the electrical properties of the impregnating compounds. The electric strength of mica paper is the higher, the more closely the electric strength and the dielectric constant of the impregnating substance lie to the corresponding values of mica. The electric strength can be increased by reducing the thickness and increasing the "linear dimensions" of the mica lamellas. In the development of insulations it is necessary to aim at an agreement with the continuous anisotropic structure of mica paper. There are 5 figures, 4 tables, and 5 Soviet references.

ASSOCIATION: Vsesoyuznyy elektrotekhnicheskii institut im. Lenina  
(All-Union Institute of Electrical Engineering imeni Lenin)

SUBMITTED: January 7, 1960

Card 2/2



KULAKOVSKIY, Viktor Borisovich; KOROLEV, V.N., inzh., retsenzent;  
KHVAL'KOVSKIY, A.V., kand.tekhn.nauk, red.; BORUNOV, N.I.,  
tekhn.red.

[Preventive testing of the insulation of large electric machinery]  
Profilakticheskie ispytaniia izoliatsii krupnykh elektricheskikh  
mashin. Moskva, Gos.energ.izd-vo, 1961. 135 p.

(Electric insulators and insulation--Testing) (MIRA 14:6)  
(Electric machinery)

ANDRIANOV, Kuz'ma Andrianovich. Prinimali uchastiye: PARKSHEYAN, Kh.R;  
ROMANOV. R.G.; SEMENKO, P.Ya.; ZABYRINA, K.I. . red.:  
KALITVYANSKIY, V.I., red.; KORITSKIY, Yu.V., red.; KHVAL'KOVSKIY,  
A.V., red.; EPSHTEYN, L.A., red.

[Macromolecular compounds for electrical insulation] Vysokomolekuliarnye soedineniia dlia elektricheskoi izoliatsii. Moskva, Gos. energ.izd-vo, 1961. 327 p. (Polimery v elektroizoliatsionnoi tekhnike, no.1) (MIRA 15:2)  
(Electric insulators and insulation) (Polymers)

RUBO, Leonid Grigor'yevich; KHVAL'KOVSKIY, A.V., red.; SHIROKOVA, M.M.,  
tekhn.red.

[Insulating lacquers and their uses] Isoliatsionnye laki i ikh  
primeneniye. Moskva, Gos.energ.izd-vo, 1962. 47 p. (Biblioteka  
elektromontera, no.65). (MIRA 15:5)  
(Electric insulators and insulation)

VARDENBURG, Arnol'd Kurtovich; ANDRIANOV, K.A., glavnyy red.;  
ZABYRINA, K.I., red.; KALITVYANSKIY, V.I., red.; KORITSKIY,  
Yu.V., red.; ~~KHVAL'KOVSKIY, A.V., red.~~; EPSHTEYN, L.A.,  
red. [deceased]; SHISHKIN, S.V., red.; BORUNOV, N.I.,  
tekhn.red.

[Plastics in the electric equipment industry] Plasticheskie  
massy v elektrotekhnicheskoi promyshlennosti. Izd.3., perer.  
i dop. Moskva, Gosenergoizdat, 1963. 284 p. (Polimery  
v elektroizoliatsionnoi tekhnike, no.5)

(MIRA 16:8)

(Plastics) (Electric equipment industry)

BORUSHKO, V.S., inzh.; BUNER, V.B., inzh.; BEPESTYUKOV, V.N., inzh.;  
KHVAL'KOVSKIY, A.V., kand. tekhn. nauk

Some relationships between winding rod insulation damage  
of high-voltage generators and different parameters of  
the rods. Elektrotehnika 36 no.8:11-13 Ag '64.

(MIRA 17:9)



KHVAL'KOVSKIY, N.V.

Method of estimating the area of contact of thread with a  
cylindrical surface. Izv.vys.ucheb.zav.; tekhn.tekst.prom.  
no.6:25-30 '62. (MIRA 16:2)

1. Mokovskiy tekstil'nyy institut.  
(Yarn--Testing) (Friction)

KHVAL'KOVSKIY, N.V.; YAT' KOVSKIY, T.

Effect of the fibrous content and fluffiness of wool and lavsan yarn blends on their coefficient of tangential resistance. Izv. vys. ucheb. zav.; tekhn. tekst. prom. no.3:15-21 '62.

(MIRA 17:10)

1. Moskovskiy tekstil'nyy institut i Lodzinskiy politekhnicheskii institut.



KHVALKOVSKIY, T.P.

Production of the Kiev Factory for Control and Measuring Apparatus of the  
Main Administration of Food Machinery. Sakh.prom. 27 no.4:3-4 Ap '53.  
(MLRA 6:6)

1. Pervyy Petrovskiy sakharnyy zavod.

(Sugar machinery)

KHVALKOVSKIY, T.P.

Improving record system for beets delivered by rail. Sakh.prom.30  
no.11:41-42 N '56. (MLRA 10:2)

1. 1-y Petrovskiy sakharney zavod.  
(Sugarbeets)

~~KHVALKOVSKIY, T.P.~~

Improving the decolorization of the molasses solution for a  
polarimetric analysis. Sakh.prom. 33 no.7:21-22 J1 '59.  
(MIRA 12:11)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sakharnoy  
promyshlennosti.  
(Sugar--Analysis and testing)

KHVALKOVSKIY, T.P.

Improve the supplying of laboratories with equipment and  
apparatus. Sakh.prom. 33 no.10:75-76 0 '59.

(MIRA 13:3)

(Sugar industry--Equipment and supplies)

KATS, V.M., KHVALKOVSKIY, T.P.

Determination of the total amount of fermented substances and  
evaluation of and payment for the molasses. Sakh.prom. 34 no.7:31-  
34 J1 '60. (MIRA 13:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sakharnoy pro-  
myshlennosti.

(Molasses)

KATS, V.M.; KHVAIKOVSKIY, T.P.

Reconsidering the instructions on the chemical and technological control and stock taking in beet sugar and raffinade production. Sakh.prom. 34 no.8:10-12  
Ag '60. (MIRA 13:8)

1. Tsentral'nyy nauchno-issledovatel'skiy institut  
sakharnoy promyshlennosti.  
(Sugar manufacture)

KHVALKOVSKIY, T.P.

Dilution, reaction with water and temperature of the solutions as factors determining the pH in the products of beet-sugar manufacture. Sakh. prom. 34 no. 12:20-22 D '60. (MIRA 13:12)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sakharney promyshlennosti.  
(Sugar manufacture) (Hydrogen-ion concentration)

KHVALKOVSKIY, T.P.

More about the determination of the sugar content of standard quality  
molasses. Sakh. prom. 35 no.2:16 F '61. (MIRA 14:3)  
(Molasses) (Sugar—Analysis and testing)



KATS, V.M.; KHVALKOVSKIY, T.P.; ARTEMOVA, N.Ya.

Evaluation of the production of individual separation shops.  
Sakh.prom. 35 no.7:34-37 J1 '61. (MIRA 14:7)

1. TSentral'nyy nauchno-issledovatel'skiy institut sakharnoy  
promyshlennosti.

(Ukraine—Sugar manufacture)

KATS, V.M.; KHVALKOVSKIY, T.P.; IVANOVA, L.K.

Investigating raw materials and molasses in the processing of unrefined  
cane sugar. Sakh.prom. 36 no.11:45-49 N '62. (MIRA 17:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut sakharney promysh-  
lennosti.

KHVALKOVSKIY, T.P.

Simplify and improve the current inspection of the production department. Sakh.prom. 38 no.1:34-36 Ja '64. (MIRA 17:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti.

KHVALKOVSKIY, T.P.

Determination of dry substances content of sugar products without  
diluting. Sakh.prom. 38 no.3:37-40 Mr '64. (MIRA 17:4)

KHVAL'NOV, A. M., Cand Tech Sci (diss) -- "Investigation of the operation of a centrifugal mixer for granular materials". Moscow, 1959. 12 pp (Min Higher and Inter Spec Educ RSFSR, Moscow Inst of Chem Machine Building), 220 copies (KL, No 9, 1960, 126)

AKOPYAN, L.A.; VARYGIN, N.N.; GUTAREV, V.V.; ZYKOV, D.D.; KARAVAYEV, N.M.;  
KONDUKOV, N.B.; LASTOVTSEV, A.M.; MAKAROV, Yu.I.; MAZUROV, D.Ya.;  
MARTYUSHIN, I.G.; MASLOVSKIY, M.F.; NIKOLAYEV, P.I.; PLANOVSKIY,  
A.N.; RYCHKOV, A.I. [deceased]; CHENHOV, O.S.; KHVAL'NOY, A.M.;  
SHAKHOVA, N.A.

Theory and practice of heterogeneous processes in a fluidized  
bed. Trudy MIKHM 26:3-22 '64. (MIRA 18:5)

LASTOVSEV, A.M., dr. tekhn. nauk, prof.; KHVAL'NOV, A.M., kand. tekhn.  
nauk; MAKAROV, Yu.I., kand. tekhn. nauk

Blenders for free flowing materials. Khim. mashinostr. no.1:  
7-9 Ja'63 (MIRA 17:7)

LASTOVTSKY, A.M., doktor tekhn.nauk, prof.; KHVAT'NOV, A.M., inzh.

Intensification of the mixing of loose materials. Khim.mash. no.1;  
22-26 Jan '59. (MIRA 12:7)  
(Mixing machinery)



KHVAL'NOV, A.M., kand.tekhn.nauk

Determination of power expended on the operation of a centrifugal  
mixer for free-flowing materials. Khim.mash. no.2:20-23 Mr  
'62. (MIRA 15:3)

(Mixing machinery)

LASTOVITSEV, A.M.; KHVAL'NOV, A.M.; MAKAROV, Yu.I.

Process of mixing of free-flowing materials in a fluidized  
bed obtained by the mechanical method. Khim.prom. no.11:815-818  
N '62. (MIRA 16:2)

(Fluidization)

ACCESSION NR: AP4033974

S/0121/64/000/004/0013/0015

AUTHORS: Blokh, O. I.; Khvalov, Yu. G.

TITLE: Determining the parameters of a magnetostriction feed mechanism

SOURCE: Stanki i instrument, no. 4, 1964, 13-15

TOPIC TAGS: mechanical metal cutting, magnetostriction, magnetostrictive element, impulse input, magnetic coil

ABSTRACT: The authors studied the magnetostriction effects in the micro-input mechanisms of metal cutting machine tools. The differential equation for the motion of the core of magnetostriction is set up, and it is shown that the calculations for magnetostriction mechanisms must take into account the axial load on the core and the dynamic characteristics of the motion. The speed of response of the mechanism was obtained and its stability was investigated. The mechanism (see Fig. 1 on the Enclosure) consists of a ferromagnetic core (1), rigidly coupled to the movable unit (2) and two terminals (3). Under the influence of the magnetic field created by the coil (4), the length  $L$  of the free section of the core is shortened. The core is made of a material of negative magnetostriction. After removal of the field the free end of the core is fixed and the

Card 1/3

ACCESSION NR: AP4033974

movable unit is shifted by a distance  $\Delta l_m$ . The differential equation of motion for this system is given by  $M\ddot{x} + h\dot{x} + kx + Q = 0$ , where  $M$  is the mass of the movable unit,  $h$  the characteristic coefficient of resistance (considered to be proportional to the velocity in the first approximation), and  $Q$  the constant component friction force (dependent on the material, the state of the guiding surface and the coefficient of friction  $\mu$ ). Integration of the equation yields

$$x = e^{-\theta t} (C_1 e^{\sqrt{\omega_0^2 - \theta^2} t} + C_2 e^{-\sqrt{\omega_0^2 - \theta^2} t}), \quad \text{where } \theta = h/\mu \text{ is the resistance coefficient,}$$

$\omega_0 = \sqrt{k/M}$  is the natural frequency of the system, and  $C_1$  and  $C_2$  are constants of integration. Orig. art. has 13 formulas and 7 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: IE

NO REF SOV: 002

OTHER: 002

Card 2/3

ACCESSION NR: AP4033974

ENCLOSURE: 01

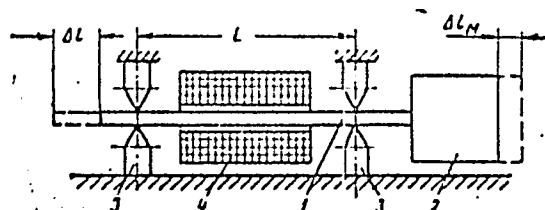


Fig. 1. Basic scheme of the magnetostriction mechanism.

Card 3/3

SVIRIDENKO, S.Kh.; AKHMECHET, L.S.; VOLKOV, A.A.; MEYSTEI', A.M.;  
MIZHEVSKIY, L.L.; POLYAKOV, L.M.; RASHKOVICH, M.F.;  
SRINIER, L.A.; KHVALOV, Yu.G.; SHPIGLER, L.A.; SHRAGO,  
L.K.; ORLIKOV, M.L., inzh., retsenzent; SVECHNIKOV, L.V.,  
inzh., retsenzent; MATSIYEVSKIY, A.G., inzh., red.

[Elements of the automation of machine tools] Elementy  
avtomatizatsii metallorezhushchikh stankov. Moskva, Mash-  
giz, 1964. 210 p. (MIRA 17:12)

GABRIELI, V.G.; EHVADOVSKIY, A.G.

Abstract on the geophysical prospecting of mineralized  
ore bodies in the Almalyk region. Rawed. 1 ch. no. 10:  
43-48 9 1983. (U.S. 17:12)

1. Glavnoye upravleniye geologii i okhrany nefti pri Slovo  
Ministrov Urbekskoy SSR.

KHVALYNSKIY, V., ekonomist

Untouched potentialities should be put to use. Rech.transp.  
21 no.11:4-6 N '62. (MIRA 15:11)  
(Inland water transportation--Cost of operations)



KHVALOV, M.S., inzhener.

"Dry" hardening of leaf springs. Vest. mash. 36 no.6:56  
Ja '56. (MLRA 9:10)

(Steel--Hardening) (Springs (Mechanism))

KHVALOV, M.S.

28-58-1-24/34

AUTHORS: Vedernikov, N.V., and Khvalov, M.S., Engineers

TITLE: The Quality of RR-Car Axle-Metal Must Be Improved (Povysit' kachestvo metalla dlya vagonnykh osey)

PERIODICAL: Standartizatsiya, 1958, # 1, pp 63-64 (USSR)

ABSTRACT: In 1956, the Kalinin RR Car Plant undertook an investigation of axles made from bloom steel. Out of 410 axles tested, all of which had passed mechanical tension and impact resistance tests prescribed by the "GOST 4008-53"-standard, high contamination with sulfides and oxides in clearly outlined bands was found in 388. It appears that such contamination has no noticeable effect on the strength of the steel during these standard tests, as long as the steel grain size is not under # 4, but it does affect the endurance of the axles under working conditions. The degree of contamination revealed is shown in Tables 2 and 3. These tests showed that the "GOST 4728-53" and "4007-57"-standards for axle and axle steel need to be revised soon.

Card 1/2

There are 3 tables.

The Quality of RR-Car Axle-Metal Must Be Improved

28-58-1-24/34

ASSOCIATION: Kalininskiy vagonostroitel'nyy zavod (Kalinin RR-Car Plant)

AVAILABLE: Library of Congress

Card 2/2

~~151A~~ K H V ALOV, Ya. A.  
SAKHNENKO, Vladimir I'vovich; MAKSIMOVICH, Vadim Aleksandrovich; TROITSKIY,  
Anatoliy Vasil'eyvich; TROCHUN, Ivan Petrovich; POTISHKO, Aleksey  
Vasil'yevich; AVRAMENKO, Luka Avksent'yevich; VAHEYKIS, Arnol'd  
Mikhaylovich; VITKUP, Ye.B., redaktor; RAYKO, M.V., redaktor; SAMO-  
~~KHVALOV, Ya. A.~~ vedushchiy redaktor; VAL'CHUK, G.I., vedushchiy  
redaktor; PATSALYUK, P.M., tekhnicheskii redaktor

[Atlas of machine parts; mechanical joints and couplings] Atlas  
detalei mashin; soedineniia i mufty. Kiev, Gos. izd-vo tekhn. lit-  
ry USSR, 1956. 146 p. (MIRA 10:2)  
(Couplings) (Welding) (Fastenings)

VOL'FSON, N.B.; GAR'KOVETS, V.G.; KHVALOVSKIY, A.G.

Using geophysical methods for solving certain problems of deep  
geological mapping in the Almalyk ore deposit. Sov. geol. 4  
no.1:109-120 Ja '61. (MIRA 14:1)

(Almalyk region--Ore deposits--Maps)  
(Prospecting--Geophysical methods)

VOL'FSON, N.B.; GAR'KOVETS, V.G.; KHVALOVSKIY, A.G.

Using combined geophysical methods in prospecting for primary  
gold deposits in the mountain region of Uzbekistan. Sov. geol.  
6 no.10:76-85 0 '63. (MIRA 17:1)

1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete  
Ministrov UzSSR.

VOL'FSON, N.B.; GAR'KOVETS, V.G.; KHVALLOVSKIY, A.G.

Using geophysical methods in prospecting for porphyry copper  
ores in the Almalyk ore-zone. Sov.geol. 7 no.2:138-143 F '64.  
(MIRA 17:3)

1. Glavnoye upravleniye geologii i okhrany neдр pri Sovete Minis-  
trov Uzbekskoy SSR.

S/661/61/000/006/020/081  
D205/D302

AUTHORS: Khvalovskiy, V., and Bazhant, V.

TITLE: Splitting the Si-C<sub>6</sub>H<sub>5</sub> bond by mineral acids

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soyedineniy; trudy konferentsii, no. 6, Doklady, diskussii resheniye. II Vses. Konfer. po khimii i prakt. prim. soyed., Len. 1958. Leningrad. Izd-vo AN SSSR. 1961, 101-109

TEXT: The aim of this investigation was to establish the splitting rate as a function of temperature, acid concentration and structure and also of the number of siloxane bonds at the dephenylated Si atom. A further task was to establish the conditions at which HNO<sub>3</sub> in its action on a silicophenylic compound splits off benzene, with the simultaneous formation of nitrobenzene. The investigation of the influence of the number of siloxane bonds at the dephenylated silicon atom was performed by the action of aq. HCl in CCl<sub>4</sub> and

Card 1/4



Splitting the Si-C<sub>6</sub>H<sub>5</sub> ...

S/661/61/000/006/020/081  
D205/D302

xylylene-dioxane mixtures on  $[(C_6H_5SiO)_{1.5}]_x$ ,  $[(C_6H_5(CH_3)SiO)_3]$ ,  $[(C_6H_5(CH_3)_2Si)_2O]$  and  $C_6H_5Si(CH_3)_3$ . It is shown that the presence of oxygen atoms bonded to the silicon slows down the splitting reaction. The velocity constant decreases uniformly with the increase in the number of oxygen atoms. The influence of temperature on the reaction was investigated between H<sub>2</sub>SO<sub>4</sub> (80.34%) and trimethyl phenyl silane in the 30 - 70°C range and has shown that the splitting reaction is of the first order. The influence of oxygen atoms bonded to the silicon atom in the reactions with H<sub>2</sub>SO<sub>4</sub> was found to be similar to the above described in the reactions with HCl. It is concluded that in both these cases the splitting mechanism is based on the electrophilic attack on the carbon of the phenyl group bonded to the silicon atom. The formation of benzene sulfonic acid in the splitting reactions was studied by using highly concentrated H<sub>2</sub>SO<sub>4</sub> (80.34 - 96.55%) in reactions with benzene, trimethylsilane and sym.-tetramethyl diphenyl disiloxane under the same conditions. ✓

Card 2/4

Splitting the  $\text{Si-C}_6\text{H}_5$  ...S/661/61/000/006/020/081  
D205/D302

It was shown that the reactions with the silico-phenylic compounds give higher yields of benzene sulfonic acid than the reaction with benzene. This is in accordance with the greater ionic character of the C-Si bond as compared with the C-H bond. Concentrated  $\text{HNO}_3$

splits silico-phenylic compounds almost quantitatively with the formation of nitrobenzene. This work has preparative and analytic implications in addition to its practical implications connected with the production of methylphenylic silico-polymers. *p*-Trimethyl silyl benzene sulfonic acid was synthesized by the splitting of bis-(trimethylsilyl)-benzene with concentrated sulfuric acid. Ye. A. Chernyshev (IOKh, AN SSSR, Moscow) took part in the discussion, stating that the work of the authors has opened a new way for the synthesis of aromatic nitro-compounds with a definite position of the nitro group. There are 6 figures and 13 non-Soviet-bloc references. The 4 most recent references to the English-language publications read as follows: R. A. Benkeser and H. R. Krysiak, J. Am. Chem. Soc., 75, 4528, (1953); G. Illuminati, J. F. Nobis and H. Gilman, J. Am. Chem. Soc., 73, 5887, (1951); H. H. Szmant, O. M.

Card 3/4

Splitting the Si-C<sub>6</sub>H<sub>5</sub> ...

S/661/61/000/006/020/031  
D205/D302

Davlin and G. A. Brost, J. Am. Chem. Soc., 73, 3059, (1951); S. V.  
Suthankar and H. Gilman, J. Am. Chem. Soc., 72, 4884, (1950).

ASSOCIATION: Institut khimii Chekhoslovatskoy Akademii nauk, Pra-  
ha (Institute of Chemistry, Czechoslovak Academy of  
Sciences, Prague)

✓  
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Card 4/4

S/146/62/005/001/011/011  
D232/D302

AUTHORS: Per, A., Ivanov, A., and Khvalovskiy, V., Docents

TITLE: Dissertations for the degree of Candidate of Sciences at the  
Leningradskiy institut technoy mekhaniki i optiki (Leningrad  
Institute of Precision Mechanics and Optics)

PERIODICAL: Izvestiya vyshikh uchebnykh zavedeniy. Priborostroyeniye,  
v. 5, no. 1, 1962, 147-149

TEXT: The following dissertations were presented: S.V. Minin 'Investi-  
gation of the Influence of Basic Technological Factors on Some of the  
Characteristics of an Asynchronous Tachometer'; Scientific Supervisor -  
Professor N.P. Sobolev (Deceased), Examiners - Doctor of Technical-Sciences  
Professor L.V. Vasil'yev and Candidate of Technical Sciences, Docent L.S.  
Nemchenok, S.I. Kistrusskiy 'Investigation of the Finishing Treatment of  
the External Contours of Instrument Components produced by Stamping'.  
Scientific supervisor - Professor Sobolev, Examiners - Doctor of Technical  
Sciences, Professor P.I. Bulovskiy and Candidate of Technical Sciences,

Card 1/3

S/146/62/005/001/011/011  
D232/D302

Dissertations for the degree ...

Docent A.F. Lobov, Yu. R. Vitenberg 'Investigation of fine Module Gear Shaping Instruments.' Scientific Supervisor - Professor Sobolev, examiners - Professor Bulovskiy and Candidate of Technical Sciences, Docent A.I. Shepsenvol. A.Ya. Vladimirov 'Study of Precision and Surface Roughness of hard and brittle Materials worked by Ultrasonics'. Scientific Supervisor - Professor Sobolev, examiners - Professor bulovskiy and Docent Shepsenvol. O.Ya. Konstantinov 'Study of the Process of Plane Grinding with a High degree of Smoothness and Precision'. Scientific Supervisor - Doctor of Technical Sciences, Professor A.A. Matalin, Examiners - Professor Bulovskiy and Candidate of Technical Sciences, Docent Yu. A. Agarkov. Ye. K. Alakhov 'Theory of Operation of a Reflection Klystron with Autodyne and its Application to the Construction of adjustment for the Measurement of an Electromagnetic Field of Secondary Radiation of Various Bodies', Scientific Supervisor - Doctor of Technical Sciences, Professor S.I. Zilitinkovich, Examiners - Doctor of Technical Sciences, Professor Yu.A. Katsman and Candidate of Technical Sciences, Docent Ivanov, A.M. Fedorov 'Study and Development of Apparatus and Methods for High Accuracy Measurement of Voltage at Frequencies up to 1,000 Mc/s'. Scientific Supervisor,

Card 2/3

S/146/62/005/001/011/011

Dissertations for the degree... D232/D302

Candidate of Technical Sciences B.Ye. Rabinovich, Examiners - Doctor of Technical Sciences, Professor G.D. Burdun and Candidate of Technical Sciences, Docent A.A. Tudorovskiy. V.A. Panov 'Study and Design of Mirror-Lens Achromatic Objectives of a Microscope with a Flat Image Plane and Reduced Central Screening of the Aperture'. Examiners - Corresponding Member of the AS USSR, D.D. Maksutov, Doctor of Technical Sciences, Professor M.M. Rusinov, and Doctor of Physical and Mathematical Sciences Ye. G. Yakhontov.

Card 3/3

RUSINOV, Mikhail Mikhaylovich; YAKHONTOV, Ye.G., doktor fiz.-matem.  
nauk, retsenzent; KHYALOVSKIY, V.V., inzh., red.; LEYKINA,  
T.L., red.izd-va; BORODULINA, I.A., red.izd-va; PETERSON, M.M.  
tekhn.red.

[Technical optics] Tekhnicheskaya optika. Moskva, Gos.nauchno-  
tekhn.izd-vo mashinostroit.lit-ry, 1961. 327 p.

(MIRA 14:6)

(Optics)

KALIBIN, M.; KHVALYNSKIY, V.

Strengthen the leading employees of district and municipal financial  
departments. Fin. SSSR 19 no.4:45-48 Ap '58. (MIRA 11:4)  
(Finance)



KHVALYNSKIY, Vladimir Petrovich; KOROTEYEV, N.I., red.; ATROSHCHENKO, L.Ye.,  
tekh. red.

[Golden kopeck] Zolotaia kopeika. Moskva, Izd-vo "Znanie," 1961.  
60 p. (MIRA 14:7)

(Money)

.. SOV/49 -58-10-5/15

AUTHOR: Khvan, A. P.

TITLE: ~~Wind-Driven~~ Waves on a Shallow Lake (Pole vetrovykh voln na melkovodnom ozere)

PERIODICAL: Izvestiya Akademii Nauk SSSR, seriya geofizicheskaya, 1958, Nr 10, pp 1202-1210 (USSR)

ABSTRACT: In order to use V. V. Shuleykin's theory on wave formation in lakes, it is necessary to find the scale lengths involved in the dimensionless quantities,  $\tau$  and  $\xi$  (Ref.1, p 109). The author first writes down an expression for the critical lifetime of waves in shallow water:

$$t_{cr} = \frac{T}{\eta} \cdot \frac{H_1}{r} \quad (1)$$

where

$$H_1 = H \frac{\operatorname{sh} 2 \frac{H}{R}}{2 \frac{H}{R}} \quad (2)$$

Card 1/6

SOV/49 -58-10-5/15

Wind-Driven Waves on a Shallow Lake

where  $R = \frac{\lambda}{2}\pi$ ,  $H$  is the water depth and  $r$  is the half height of a wave. In shallow water a wave loses a portion of its energy  $\epsilon E$  in the time  $t_{cr}$ . This gives Eq.(4) for the rate of working. The power transferred from the wind to the wave is given by Eq.(5) (Ref.1, p 173), where  $\delta_a$  is the air density,  $V - c$  is the relative wind velocity and  $\bar{\chi} = \kappa r/R$ . The energy lost per unit time due to turbulent friction is given by Eq.(7). Here, the turbulent viscosity coefficient,  $\nu$ , is taken, from the theoretical investigations of S. V. Dobroklonskiy (Ref.2), as in Eq.(8). Using Eq.(8), Eq.(7) can be rewritten as Eq.(9) (where  $H/\lambda$  for the White Sea is taken to be  $\sim 0.3$ ). The energy flow per unit time along the wave path is given by Eq.(10) (Ref.1, Eq.228). The general equation of the energy balance is Eq.(11). The author considers the case when  $x = \infty$ , i.e.  $W_\varphi$  can be ignored. The energy balance can now be expressed by Eq.(12), which can be further simplified by ignoring the energy loss due to internal friction. This enables  $r_2$  - the limiting half-height of

Card 2/6

SOV/49 -58-10-5/15

Wind-Driven Waves on a Shallow Lake

the wave to be found (Eqs.(13) and (14)). It can be seen that the most probable wave height in a shallow sea is proportional to  $(V - c)$ , whereas it is proportional to  $(V - c)^2$  in oceans (Eq.15). Also,  $r_2$  is proportional to  $\sqrt{H_1}$ . Returning to Eq.(11); division by  $W_v$  enables this to be expressed in dimensionless variables (Eq.16). Eqs.(17) and (18) determine the scale lengths for time and distance. It is necessary to know the values of  $\epsilon$  and  $\kappa$  in these definitions - the latter can be determined from Eq.(15) and, thence, the former from Eq.(14). The Karman type constant,  $k$ , enters into these definitions and can be obtained from considering waves in deep water, e.g. Eq.(25). The value of  $k$  in the Black Sea and the North Sea is obtained:- it is 0.105 in both, differing from the value originally found by Karman. This gives values for  $\kappa$  of 0.675 in the North Sea and 0.555 in the Black Sea. On the other hand, using data

Card 3/6

SOV/49 -58-10-5/15

# Wind-Driven Waves on a Shallow Lake

from Fig.46 in (Ref.1), a value  $\kappa = 0.575$  is obtained. Next the value of  $\varepsilon$  is determined using Eq.(14) and measurements made in the White Sea. The result obtained is  $\varepsilon = 0.0368$  (for  $\kappa = 0.575$ ). Eq.(17) then gives

$t/\tau = 0.63$  hours, which, since  $t \geq 6$  hours, gives

$\tau \geq 9.55$ . Eq.(19) gives  $x/\xi = 12.9$  km, i.e.  $\xi = 1.705$ .

In order to find  $\eta$  from  $\tau$  and  $\xi$  it is to consider some basic results obtained, i.e. (1) when  $\partial\eta/\partial\tau = 0$  with

$\xi = 0$ ,  $\eta = 0$ ; Eq.(30) for  $\xi$  holds. (2) When  $\partial\eta/\partial\xi = 0$  with  $\tau = 0$ ,  $\eta = 0$  as boundary conditions, then Eq.(31) for  $\tau$  holds. Eqs.(30) and (31) are used to construct the curves in Figs.1 and 2 for various  $\gamma$ . Taking  $\gamma = 0.822$  (later shown to be the required value), Fig.1 shows that  $\phi = 0.925$  when  $\xi = 1.705$ . Using this curve and Eq.(29), a curve of

wave height against distance can be drawn (curve I, Fig.3). Curve I, Fig.4 can be similarly obtained using Fig.2 and Eq.(28). It was assumed in drawing these curves that  $R/r$  and  $T$  are constant and equal to  $(R/r)_2$  and  $T_2$ . The

Card 4/6

SOV/49 -58-10-5/15

Wind-Driven Waves on a Shallow Lake

correction necessary to allow for the fact that they vary, can be obtained from Eq.(32) and Fig.5. It is also assumed that  $(V - c)$  is constant: the variations in this factor can be ignored, however, as they are compensated by variations in  $\kappa$ . The author finally considers the possibility of ignoring  $W_\mu$  in comparison with  $W_H$  for very shallow seas. The ratio  $W_H/W_\mu$  is given by Eq.(33) which, according to data obtained from the White Sea is equal to 4.26 -

Card 5/6

SOV/49 -58-10-5/15

Wind-Driven Waves on a Shallow Lake

even though the White Sea is not very shallow. Values for  $\beta$  (= 0.178) and  $\gamma$  (= 0.822) are then determined. There are 5 figures and 6 Soviet references, of which 1 is translated from English).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University im. M. V. Lomonosov)

SUBMITTED: March 21, 1958.

Card 6/6

KHVAN, A. P., Candidate Phys-Math Sci (diss) -- "The pre-calculation of wind waves on a shallow lake (sea)". Moscow, 1959. 13 pp (Moscow State U im M. V. Lomonosov, Phys Faculty) (KL, No 22, 1959, 108)



3(9)

AUTHOR:

Khvan, A. P.

SOV/20-126-2-21/64

TITLE:

The Exact Solution of the Equation of the Field of Wind Waves in a Very Shallow Sea (Tochnoye resheniye uravneniya polya vetrovykh voln na sil'no melkovodnom more)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2, pp 303-306 (USSR)

ABSTRACT:

V. V. Shuleykin (Ref 1) found the exact integral of the field equation of wind waves in an ocean and explains their physical importance. The solution of the analogous problem for a sea of arbitrary depth presents considerable analytical difficulties. The author therefore confines himself in this paper to dealing with the solution of the problem for a very shallow sea, so that the following simplifications were rendered possible: 1) The energy losses due to internal turbulent friction may be neglected as against the partial destruction of the waves in shallow water. 2) In very shallow water the phase velocity is determined according to the well-known formula  $c = (gH)^{1/2}$ . The following results from these simplifications: The critical running time of the waves in very shallow water is  $t_{kr} = \frac{T}{\pi} \frac{H}{r} \frac{\text{sh} 2\alpha}{2\alpha} \approx \frac{TH}{\pi r}$ . Here T - denotes the period of the wave, r - the half-height of the wave,  $\alpha = 2\pi \frac{H}{\lambda}$ ,  $\lambda$  - the

Card 1/2

The Exact Solution of the Equation of the Field of Wind  
Waves in a Very Shallow Sea

SOV/20-126-2-21/64

wavelength ( $H/\lambda \ll 1.0$ ). During the time  $t_{kr}$  the wave in shallow water loses a certain part  $\xi E$  of its energy during the unit of time per unit of area of the surface of the sea. The power output lost in shallow water amounts to  $W_H = \frac{\xi E}{t_{kr}} = \frac{\pi \xi}{2} \frac{g}{TH} r^3$ . Here  $E = \rho g r^2 / 2$

denotes the energy of the wave per unit of area of the surface of the sea,  $\xi$  - a certain coefficient taking account of the energy losses of the wave in shallow water. This coefficient may be determined by observation. Next, the equation for the energy balance in a very shallow sea is given, and herefrom the extreme half height of the waves in a very shallow sea is derived. Further, the equation of the field of wind waves in a very shallow sea is derived and the corresponding boundary conditions are given. The particular solutions are of the same type for the following two cases: 1) Development of the waves far from the shore upon which the wind acts. 2) In the case of a steady wave motion. Also the complete solution may easily be derived from the boundary conditions. There are 1 figure and 4 Soviet references.

Card 2/2

*Moscow State Univ. in M.V. Lomonosov*

KHVAN, A.P.

Calculating the elements of wind waves in a shallow sea. Izv.  
AN SSSR. Ser. geofiz. no.1:122-129 Ja '61. (MIRA 14:1)

1. Akademiya nauk SSSR, Morskoy gidrofizicheskiy institut.  
(Waves)

KHVAN, A.P.

Calculation of the height of decaying waves in a very shallow lake. Izv. AN SSR. Ser. geofiz. no. 3:453-457 Apr '61.

(MIRA 14:2)

(Waves)

KHVAN, A.P.

Increase of the wind wave length in a shallow sea. Dokl.AN SSSR  
138 no.5:1080-1083 Je '61. (MIRA 14:6)

1. Predstavleno akademikom V.V.Shuleykinym.  
(Wave motion, Theory of)

KHVAN, A.P., kand.fiz.-matem.nauk (Moskva)

Creator of marine physics; 70th birthday of Academician Vasilii  
Vladimirovich Shuleikin, 1895- . Priroda 54 no.2:120-122 F '65.  
(MIRA 18:10)

KHVAN, A.V., student

Intensiveness of photosynthesis in corn depending on the length of  
day. Uch. zap. Ped. inst. Gerts. 178:165-172 '59. (MIRA 14:7)  
(Corn (Maize)) (Photosynthesis)

SKAZKIN, F.D.; KHVAN, A.V.

Effect of rainfall during the period of ripening on grain quality and yields. Dokl. AN SSSR 140 no.1:244-246 S.O '61. (MIRA 14:9)

1. Leningradskiy gosudarstvennyy pedagogicheskiy institut.

Predstavleno akademikom A.L.Kursanovym.

(Plants, Effect of water on) (Grain)



KHVAN, A.V.

Effect of rain during the period of the forming and ripening of spring cereal grain on some biochemical and physiological processes. Uch.zap. Ped.inst.Gerts. 249:311-330 '63. (MIRA 17:12)

1. Leningradskiy gosudarstvennyy pedagogicheskiy institut imeni A.I. Gertsena, Kafedra botaniki.

VERKHOVSKIY, I.M., prof.; KHVAN, L.I., inzh.

Methodology of calculating the basic parameters of a movable overflow baffle for discharging the concentrate in jigging coal fines. Izv. vys. ucheb. zav.; ger. zhur. 6 no.7:195-198 '63. (MIRA 16:9)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki. Rekomendovana kafedroy obogasheniya poleznykh iskopayemykh Moskovskogo instituta radioelektroniki i gornoy elektromekhaniki.  
(Coal preparation--Equipment and supplies)

KHONDKARIAN, O.A.; SKOBEL'SKIY, M.D.; KHVAN, L.M.; BURAK, A.I.

Clinical and etiological aspects of polyseasonal meningoencephalitis.  
Vest. AMN SSSR 19 no.6:35-42 '64. (MIRA 18:4)

1. Institut nevrologii AMN SSSR, Moskva.

KHONDKARIAN, O.A.; GALUZO, N.V.; KHVAN, L.M.

Some problems in the clinical aspects of infectious polyradiculoneuritis.  
Vest.AMN SSSR 20 no.7:18-24 '65. (MIRA 18:8)

1. Institut nevrologii AMN SSSR, Moskva.

SHUBOVA, T.B.; KHVAN, L.M.

Adie's syndrome. Zhur. nevr. i psikh. 59 no.1:18-23 '59 (MIRA 12:3)

1. Institut nevrologii (dir. - prof. N.V. Konovalov) AMN SSSR, Moskva.  
(ADIE'S SYNDROME, case reports  
(Rus))

KHONDKARIAN, O.A.; KHVAN, L.M.; SEREBRYAKOVA, N.I.; NAUMENKO, Yu.I.;  
RUDENSKIY, Ye.G.

Postvaccinal lesions of the nervous system. Zhur.nevr.i psikh. 61  
no.3:359-367 '61. (MIRA 14:7)

1. Institut nevrologii (dir. - prof. N.V.kononov) AMN SSSR i 1-ya  
klinicheskaya infektsionnaya bol'nitsa (glavnyy vrach N.G.Zaleskver),  
Moskva.  
(SMALLPOX) (ENCEPHALITIS) (NERVOUS SYSTEM—DISEASES)

KHONDKARIAN, O.A.; KHVAN, L.M.

Some clinical characteristics of acute serous meningitis. Vest.  
AMN SSSR 16 no.4:79-87 '61. (MIRA 15:5)

1. Iz Instituta nevrologii (dir. -- doystvitel'nyy chlen AMN SSSR  
prof. N.V.Konovalov) AMN SSSR.  
(MENINGITIS)

KHONDKARIAN, O.A.; SKOBEL'SKIY, M.D.; KHIVAN, L.M.; BURAK, A.I.

Clinical aspects and etiology of acute serous meningitis. Vest.  
AMN SSSR 17 no.7:13-17 '62. (MIRA 15:10)

1. Institut nevrologii AMN SSSR.  
(MENINGITIS) (VIRUS DISEASES)



KHVAN, P.I.

Some data on choricepithelioma of the female genitalia. Akush. 1  
gin. 36 no.3:21-24 My-Je '60. (MIRA 13:12)  
(GENERATIVE ORGANS, FEMALE—CANCER)

KHVN B.V.

Sep/Oct 48

USSR/Medicine - Encephalitis  
Complications and Sequels  
Medicine - Neurology

"Clinical Characteristics of Japanese Encephalitis in the Stage of Convalescence and Aftereffects," I.S. Glazunov, V.V. Kertscheva, R. N. Khvan, Inst of Neurol, Acad Med Sci USSR, 2 1/2 pp

"Neuropedol i Psikhiat" Vol XV-I, No 5

Submitted 2 July 48

PA 62/9T90



VERKHOVSKIY, I.M., professor, doktor tekhnicheskikh nauk; KHVAN, V.I., gornyy  
inzhener.

Concentrating unclassified coal fines by the method of rapid jigging.  
Ugol' 28 no.6:37-41 Je '53. (MLRA 6:6)  
(Coal preparation)

PROTSENKO, I.A.; MUZYLEV, G.A., redaktor; KHVAN, V.I., redaktor;  
RYKOV, N.A., redaktor.

[Gravitation methods of coal preparation] Gravitatsionnye  
metody obogashchenia uglia. Moskva, Ugletekhiziat, 1954. 186 p.  
(Coal preparation) (MLRA 7:8)

KHVAN, V.I., dotsent, kandidat tekhnicheskikh nauk

The problem of jiggling cycles. Gor.zhur. no.7:52-57 J1 '55. (MIRA 8:8)  
(Ore dressing)

KHVAN, Vil'gel'm Ivanovich; TOPORKOV, V.Ya., otvetstvennyy redaktor;

RIKOV, N.A., redaktor izdatel'stva; KOROVENKOVA, Z.A., tekhnicheskii  
redaktor

[Jigging coal in water] Otsadka uglia v vodnoi srede. Moskva,  
Ugletekhizdat, 1956. 115 p. (MIRA 9:10)  
(Coal preparation)

KHVAN, V.I.

Letter to the editor. Gor. zhur. no.7:3 of cover J1 '56.

(MLRA 9:9)

(One dressing)



KHYAN, V.I., dotsent

New method of evaluating the efficiency of stratification in the  
jigging process. Izv. vys. ucheb. zav.; gor. zhur. no.10:177-182  
'60. (MIRA 13:11)

1. Khar'kovskiy gornyy institut. Rekomendovana kafedroy obogashcheniya  
poleznykh Khar'kovskogo gornogo instituta.  
(Ore dressing)

SOKOLOV, Vladimir Gennadiyevich; VERKHOVSKIY, I.M., laureat Gosudarstvennoy premii, prof., doktor tekhn. nauk, retsenzent; VESSEL'MAN, S.G., prof., doktor tekhn. nauk, retsenzent; KHVAN, V.I., kand. tekhn. nauk, retsenzent; SHEVCHENKO, N.P., inzh., retsenzent; OL'FERT, A.I., red. izd-va; MAKSIMOVA, V.V., tekhn.red.; OVSEYENKO, V.G., tekhn.red.

[Curves of beneficiation properties of coals] Krivye obogatimosti  
uglei. Moskva, Gosgortekhnizdat, 1962. 88 p. (MIRA 15:12)  
(Coal preparation)

YEMEL'YANOV, D.S.; KHVAN, V.I.; PREOBRAZHENSKIY, B.P.

Automatic discharge of the heavy fractions from settling machines.  
Koks i khim. no.10:3-6 '63. (MIRA 16:11)

1. Khar'kovskiy institut gornogo mashinostroyeniya, avtomatiki  
i vychislitel'noy tekhniki.

KOBLOV, V.K., inzh.; KHVAN, V.R., starshiy master

Stand for adjusting TKMS-1000 tachometers. Elek. i tepl.  
tiaga 5 no.8:9-10 Ag '61. (MIRA 14:9)

1. Zagotovitel'nyy tsekh depo Kzyl-Orda Kazakhskoy dorogi.  
(Tachometer)

KHVAPIL, M. (Praga)

Biochemical method in studying the effect of dust on industrial workers. Gig. truda i prof. zab. 4 no.4:33-38 Ap '60. (MIRA 15:4)

1. Institut gigiyeny truda i professional'nykh zabolevaniy.  
(LUNGS--DUST DISEASES)

S/058/62/0007006/009/136  
A061/A101

9,6150

AUTHORS: Khvashchevska, Ya., Dybovski, K., Khvashchevski, S.

TITLE: [Fabrication] technique and characteristics of silicon alpha-particle counters

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 10, abstract 6B78  
("Inst. badań jądrow. PAN", 1961, no. 242/1-B, 9 pp., ill., Russian and Polish summaries)

TEXT: A fabrication technique for Si detectors with surface barrier, to serve for alpha-particle recording, is described, and their main working characteristics are indicated. n-type Si of a resistivity of 100 - 300 ohms·cm was used in the detector fabrication. The detector thickness ranged between 1 and 1.5 mm. The surface barrier was formed by coating one side of the Si plate with a thin gold film. The spectrum of Pu<sup>239</sup> alpha particles, which is presented, was measured at a counter voltage of 5 v and a loading impedance of 100 kilohms. The resolving power, measured on the Pu<sup>239</sup> alpha line, was found to be 5%. The signal-to-noise ratio was 29. The linearity of the function between pulse amplitude and alpha-particle energy was examined. In all of the detectors produced,

Card 1/2

S/058/62/000/006/009/136  
A061/A101

[Fabrication] technique and...

this function was found to be linear up to an alpha-particle energy of 5 Mev.  
The time of pulse growth depended essentially on the pass-band of the amplifier  
and amounted to 0.2 - 0.3  $\mu$ sec.

Ya. M.

[Abstracter's note: Complete translation]

Card 2/2

Khvashchevskaya, Ya. S.

16(2); 20(4,5) **PLANE 1 BOOK EXPLANATIONS** **SEP 7/699**  
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Abdankaya bank Balasayevy str. Enslaved people 1 monument

Study, v. 2. (Transactions of the Institute of Physics and Mathematics, Armenian SSR Academy of Sciences, No. 2) Minsk, 1977. 203 p. Russian ally inserted. 750 copies printed.

Ed.: B. I. Stepanov, Academician, USSR Academy of Sciences; Ed. of Publishing House: L. Marlin; Tech. Ed.: I. Volkoborovich.

**FEATURE:** This book is intended for mathematicians, physicists, and graduate students in mathematics and physics.

**CONTENTS:** This book contains a series of articles on recent contributions by members of the Institut Mittag-Leffler (Lectures of Physics and Mathematics) at the Academy of Sciences, 2002. It is fields of radiation, luminescence, optics, and spectroscopy and on the applications to physics of analysis, vector analysis, linear groups, theory of dynamical and differential equations. The

Transactions of the Institute (Cont.)

6687/108

**Borlasvich, N. A., Zh.S. Dvashcheykova, and I.P. Layteevich.** Filters for the infrared region of the spectrum **Dispersal**

Robert, B. V. Surface Energy of a System in the Neighborhood of an  
Zero Wall

**Podary, P. I. On Certain Metric Representations for Three-dimensional Spaces**

**De Fraga, H. P. Analytic Theory of Nonlinear Systems of Ordinary Differential Equations**

**Erdős, P. On the Proof of the Impossibility of Constructing a Quadrature Formula With Equal Coefficients and Number of Nodes Greater Than Five**

**Saprunenko, B. A. Two Theorems on Reducible Hilbertian Linear Groups**

Popov, V. V. (Deceased) Determination of the Weight of a Function of Adjusted Values Using Polynomial Adjustment Method

Page 1/3



BORISEVICH, N.A.; KHVASHCHEVSKAYA, Ya.S.; LAPSEVICH, I.F.

Dispersion filters for the infrared spectral region. Trudy Inst.  
fiz. i mat. AN BSSR no.2:214-223 ' 57. (MIRA 12:1)  
(Light filters) (Infrared rays)

*Khvashchinskaya, Ya. S.*

20-4-17/51

AUTHORS: Stepanov, B. I., Member of the Belorussian Academy of Sciences, Khvashchinskaya, Ya. S.

TITLE: Note on the Determination of Absorption Spectra With the Help of Cold Sources of Light (Polucheniye spektrov pogloshcheniya s pomoshch'yu kholodnykh istochnikov sveta).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 4, pp. 586-590 (USSR).

ABSTRACT: The customary scheme of the equipment for the investigation of absorption spectra is illustrated by a drawing. If all elements of this scheme have the same temperature, then the incident beam on the receiver from the source is completely compensated by the beam emitted by the receiver. The deflections of the receiver then are equal to zero. If, however, the temperature of the source is higher than the temperature of the receiver, then the beam of radiation energy in the positive direction (from the source toward the receiver) is greater than the beam in the negative direction. The receiver heats up and shows positive deflections. If the receiver cools down, it shows negative deflections. The deflections of the receiver will depend not only on the temperatures of the light source and of the receiver, but also on the properties of the cuvette and to a great extent on the absorption coefficient of the substance

Card 1/3

Note on the Determination of Absorption Spectra With the  
Help of Cold Sources of Light.

20-4-17/51

under investigation. These properties can easily be utilized for the determination of the absorption spectra with the help of cold light sources. A diagram illustrates the spectrum of nitrobenzene as recorded by the infrared spectrometer IKC - 11. Two lines illustrate the spectra of a source with positive radiation and of a source with negative radiation. A brass rod cooled down to  $-100^{\circ}\text{C}$  served as a source of negative radiation. Two more curves illustrate the spectra of the same sources, if the cuvette contains nitrobenzene. A further diagram illustrates the spectra obtained by toluene under analogous conditions. The law by Buger holds for the negative beams. The results obtained here show, that in the case of experiments in the infrared spectral range the heat radiation of the receiver and of the cuvette containing the substance under investigation must be taken into consideration. A formula is deduced for the deflections of the receiver, which includes many practically important cases. The formulas deduced here show good correspondence with experimental data, and serve as a basis for the investigation of sources with negative radiation. All effects described here are only of importance in the infrared spectral range and at very high temperatures. In the visible spectral range negative beams, which may

Card 2/3

Note on the Determination of Absorption Spectra With the  
Help of Cold Sources of Light.

20-1-17/51

occur, cannot be recorded. The absorption coefficient  $k$  can be  
measured at a heating or cooling of the cuvette material without  
the use of any light source at all.  
There are 3 figures and 2 references, 2 of which are Slavic.

ASSOCIATION: Belorussian State University imeni V. I. Lenin (Belorusskiy  
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